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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/239,871	01/29/1999	DOMINIC P. CARROZZA	22-0071	6639

7590 03/11/2002

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EXAMINER

KUMAR, PANKAJ

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 03/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/239,871

Applicant(s)

CARROZZA ET AL.

Examiner

Pankaj Kumar

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

1. DETAILED ACTION

2. *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

4. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 18,19,21,22,24,25,27 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 18 recites the limitation "claim 18" in claim 18. There is insufficient antecedent basis for this limitation in the claim.

7. Since claims 19, 21, 22, 24, 25, and 27 dependent on claim 18, these claims are also rejected for the same reason.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Williams et al US pat no. 5,448,592.

10. Regarding claim 1, Williams et al. shows a receiver comprising: a memory (Williams fig. 11: 26 "register") including an addressable storage array which stores a sequence of data samples contained in a time division multiplexed signal (Williams et al. claim 13) from a plurality channels (Williams fig. 11:"16x8","16x8") and outputs the stored data samples in a sequence of

Art Unit: 2631

data groups (Williams fig. 11: "32x7", "32"x1 (implied)) with each data group containing a plurality of samples from one of the plurality of channels; and a decoder (Williams fig. 11: 28), responsive to the data groups, which decodes the data samples within the data groups and outputs decoded data samples.

11. Regarding claim 17, the discussion for claim 1 applies.

12. Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

14. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 2-16, 18-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linsky et al. US pat no. 6,279,132.

16. Regarding claim 2, Linsky shows the data samples comprise orthogonally encoded data (Linsky col. 2 last full paragraph); and the decoder is a biorthogonal inner code soft decision data decoder (Linsky: col. 6, lines 50 to 53). Linsky et al. also shows a receiver (Linsky fig. 2: 213) comprising: a memory (Linsky et al. col. 1: line 64) including an addressable storage array which stores a sequence of data samples from a plurality channels and outputs the stored data samples in a sequence of data groups with each data group containing a plurality of samples from one of the plurality of channels; and a decoder (Linsky fig. 2: 216), responsive to the data groups, which decodes the data samples within the data groups and outputs decoded data samples. What

Linsky does not show is that the data samples are time division multiplexed. It would have been obvious to one skilled in the art at the time of the invention to modify Linsky to have TDM inputs because it is well known in the art that multiple access increases efficiency and one way of achieving multiple access is via time division multiplexing.

17. Regarding claim 3, claim 2 is discussed above. Linsky shows a receiver wherein the biorthogonal inner code soft decision data decoder is a Reed Muller decoder (Linsky: col. 4, lines 2-3, last full paragraph).

18. Regarding claim 4, claim 2 is discussed above. Linsky shows a receiver wherein the orthogonally encoded data samples are QPSK encoded (Linsky: col. 3, third full paragraph).

19. Regarding claims 5 to 8, Linsky shows the receiver is contained in a satellite (Linsky: col. 3, fourth full paragraph).

20. Regarding claims 9 to 12, Linsky shows a channelizer (Linsky: fig. 1, 213), which is responsive to an input bandwidth and which divides the input bandwidth into a plurality of output channels each of equal bandwidth (Linsky fig. 1: 116, 117). What Linsky does not show is one of the output channels comprising the time division multiplexed signal. It would have been obvious to one skilled in the art at the time of the invention to modify Linsky to have TDM outputs because it is will known in the art that multiple access increases efficiency and one way of achieving multiple access is via time division multiplexing.

21. Regarding claims 13 to 16, it is inherent for the memory in Linsky et al. (Linsky et al. col. 1: line 64) to comprise a write address generator and a read address generator and the addressable storage array contains memory cells which are addressed by addresses generated by the write address generator and the read address generator, the sequence of data samples being written in a group of memory cells with addresses generated by the write address generator, and the sequence of data groups being read out with addresses generated by the read address generator. It is inherent since these are characteristic elements of a memory.

22. Regarding claims 18 to 29, the above discussion for claims 2-16 apply.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pankaj Kumar whose telephone number is (703) 305-0194. The examiner can normally be reached on 8:30 AM to 5:30 PM Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on (703) 305-4378. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-⁴⁷⁰⁰~~3900~~.

PK
March 6, 2002


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600
3/6/02